Even if we devise a proposed representative reserve system after having employed the best analytical techniques, unless funds are available to acquire and manage the lands it would only have served as an academic exercise. Clearly there needs to be improved funding of these key programmes. There is also a requirement for better off-park conservation via incentive schemes (tax concessions and the like) to protect significant sites. In New South Wales it is essential that the Conservation Agreement legislation of 1987 and any future endangered species legislation should be staffed and funded.

To overcome the present deficiencies in the reserve system and in off-park conservation of wildlife generally, an integrated approach on land-use is necessary. This ought to have as its basis sound scientific information and this can only come about by re-arranging priorities of government and non-government conservation and natural resource based organizations.

If the NPWS of New South Wales is to be concerned with a sound basis to reserve selection and management a greater proportion of funds should be directed towards survey, information systems, applied research, land acquisition and scientifically based land-management.

Reserve selection in New South Wales should pay more attention to the presence of species and habitats which are poorly represented in reserves and/or are threatened. Once they are lost they cannot be replaced. Complementary conservation measures involving a range of legislation, authorities and individual landholders are required if extinctions of wildlife are to be prevented.

REFERENCES

Benson, J. S., 1989. Establishing priorities for the conservation of rare or threatened plants and plant associations in New South Wales. In: *The Conservation of Threatened Species and their Habitats* ed by M. Hicks and P. Eiser. Occasional Paper No. 2. Aust. Committee IUCN: Canberra.

Conservation and Environment Council of Western Australia, 1983. *A Conservation Review for Western Australia: Living Resource Conservation for Sustainable Development.* Report No. 12, Department of Conservation and Environment: Western Australia.

Government of Victoria, 1987. *Protecting the Environment: A Conservation Strategy for Victoria.* Victorian Government Printer: Melbourne.

Hitchcock, P. P., 1985. Nature Conservation Review: a situation report. Unpublished report, National Parks and Wildlife Service of New South Wales: Sydney.

Specht, R. L., Roe, E. M. and Broughton, V. H. (Eds), 1974. *Conservation of Major Plant Communities in Australia and Papua New Guinea. Aust. J. Bot. Supplementary Series,* Supplement No. 7, CSIRO: Melbourne.

Whitehouse, J. F., 1990. Conserving What? The basis for nature conservation reserves in New South Wales 1967-1989. *Aust. Zool.* **26:** 11-21.

Response to Conserving What? — The basis for nature conservation reserves in New South Wales 1967-1989

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The paper by John Whitehouse is an important contribution to the analysis of Australia's national parks and nature reserves system. I hope it will stimulate debate, analysis and review, which will lead ultimately to a different and improved nature conservation system in Australia. Australia's parks and reserves are inadequate by themselves to ensure the long-term conservation of the continent's biota and there is an urgent need to extend the conservation and management of Australia's plant and animal communities to all land regardless of tenure. The nation's system of reserves is not representative of the continent's biotic diversity and has developed largely in response to political pressures without much consideration of long-term conservation objectives, sampling strategies or the requirements of flora and fauna. There has been little scientific direction of the reserve system and no systematic review of progress which might lead to the re-direction of efforts or the identification of deficiencies and needs. These were precisely the points Whitehouse made in his paper.

The design of a reserve system for nature conservation has two components; (1) a sampling strategy with clear objectives, and (2) the size, shape, number and distribution of reserves. Whitehouse plays down the importance of the latter, but validly points out that the reserve system in New South Wales has generally not adhered to scientific principles in satisfying either of the two design components. The system of reserves in New South Wales has developed in response to public pressure (both for and against reservation of particular areas), to attitudes within the Service itself which emphasized forests, wild areas and the absence of human disturbance, to the availability of land at least economic and social cost, and to the notion that parks were for people without distinguishing between the present and future needs of people. That is, the direction of the reserves system has been political with the usual emphasis on short-term political gain.

Whitehouse refers to the long-standing conflict with fisheries, but to a greater or lesser extent the whole notion of nature conservation in New South Wales and the establishment of a parks and reserves system has been driven by conflict between the Service and other government departments or agencies. This conflict was outside the Service's control and generally of a territorial nature. Rather than accept as an overall policy objective of government the need to ensure the conservation of the State's flora and fauna through a system of reserves and the adoption of management policies where nature conservation was a priority objective, other departments with a responsibility for land, water, and the conservation and management of natural resources have generally been obstructive to the Service's needs and goals and therefore obstructive to the policies of government. The conflict has not been constructive and has contributed significantly to continued conflict and division within the community over the needs of nature conservation to the long-term disadvantage of the people of Australia. The territorial behaviour of departments in the New South Wales Government is legendary and needs to be put aside if the state is truly to progress and develop without continued environmental degradation.

This is not to say that the Service itself hasn't been guilty of fostering conflict and division. With some notable exceptions there has been too little communication and working together with the scientific community and the Service. Too little use has been made of the scientific expertise within the Public Service, Universities and CSIRO. This is despite the efforts of the Scientific Committee and the Advisory Council. I found it interesting — confirming long-held views — that Whitehouse acknowledged the contribution (halting and incomplete though it was) of the Scientific Committee which functioned in an advisory role to the Service through the early 70s (it ceased to exist in a dispute with the government over publication of its advice and, I think, with a feeling of despair over its increasing isolation from the Service itself), but made no mention of the Advisory Council. I served on both bodies and felt that the Scientific Committee made a contribution to the Service which was seen to be useful by the Service, but I never considered the Advisory Council as anything more than window dressing. The Council worked hard to contribute to the Service's goals, but was used primarily as a foil against criticism from outside the Service and as a tool in internal Service bickering. I don't think the Council achieved much during the seven years I sat as a member. It represents a wasted resource which the Service would do well to treat and use differently.

Whitehouse's paper is an important contribution to the history of the National Parks and Wildlife Service in New South Wales and to the history of nature conservation in Australia. Apart from the things left out, it is accurate (at least as I saw during that time) and provocative (the truth always provokes). I would only question two of Whitehouse's final conclusions. Firstly, I think it is too easy and possibly misleading to emphasize the conservation of ecological diversity as the "driving force for the nature conservation programme". Diversity *per se* is neither good nor bad, desirable nor undesirable, but an emphasis on diversity can lead to important nature conservation areas and initiatives being lost. Similarly the emphasis on "naturalness" can lead to the rejection of highly disturbed habitats or communities which in the long-run may have critical nature conservation value. I'd prefer the emphasis to be placed on long-term viability and by that I mean we need to measure the success of the reserve system in Australia on whether or not it will meet the nature conservation requirements of climatic change and the 31st century.

Secondly, I question whether fauna conservation and management needs to be any more or any less active than that for plants. Given the problems of weed invasion, introduced herbivores (including the European bee), habitat fragmentation, and climatic change, the task of conserving either the plants or the animals of New South Wales is equally difficult and equally challenging.